

# RAILROAD JOURNAL

## INDEX.

- A**
- Accounts, mode of keeping ..... 81
- Accidents, railroad ..... 631
- Adirondac Steel company ..... 307
- Advantages of railway villages to rail-  
[way companies] ..... 70
- Aerial excursion ..... 659
- Air-line railroad ..... 373
- Alexandria and Valley railroad ..... 788
- " Baltimore ..... 475
- Albany and Cohoes railroad ..... 279
- Alabama, railroads in ..... 104, 490, 771,  
[788]
- Albany and W. Stockbridge road ..... 362
- " coal trade in ..... 551
- " cotton crop of ..... 657
- " and Tennessee railroad ..... 789
- Amalgamation of railways ..... 35
- Ammonia destructive to leather ..... 148
- American cast steel ..... 297
- " trade with Spanish colonies .....  
[565]
- " association for advancement  
of science ..... 553
- " locomotives ..... 373
- " patent rails ..... 418, 548
- " steamships ..... 549
- Androscoggin and Kennebec railroad,  
[403, 444, 775]
- " railroad ..... 115, 661, 758
- Ancient mode of travelling ..... 101
- Architectural improvements ..... 169
- Ashuelot railroad ..... 279, 562
- Atlantic and St. Law. railroad ..... 161, 403
- Atmospheric pile driver ..... 100
- Auburn and Rochester road ..... 103, 550
- Axles, patent railway ..... 196
- B**
- Baker, H. F., improvement of steam  
[boilers] ..... 328
- Baltimore and Ohio railroad—visit of  
[the Governor and others] ..... 372
- Baltimore and Ohio railroad ..... 116, 741,  
[162, 184, 472, 549, 643]
- " and Susquehanna road ..... 775
- Beaton, Col., speech of ..... 278
- Beaver Meadow railroad ..... 787
- Blake's fire proof paint ..... 376
- Bloomfield, J. E., letter from ..... 807
- Blue Ridge railroad ..... 823, 758
- Boston ..... 645
- Boston and Maine railroad co. .... 335,  
[535, 598, 645]
- Boston, Concord and Montreal rail-  
[road] ..... 66, 356, 611
- Boston, Worcester and Western rail-  
[road] ..... 360
- Boston and Worcester railroad ..... 503, 661
- Boston and Providence railroad ..... 501
- Brattleboro railroad connection ..... 194
- Bridging Lake Champlain ..... 233
- British navigation laws ..... 233
- " N. American mining co. .... 553
- association, transactions of ..... 658
- Brittania bridge, accident to ..... 665
- Bridges, deflection of under heavy bo-  
[dies] ..... 786
- Brussels academy of science ..... 500
- Bricks to be wet before used ..... 789
- Buffalo and Niagara Falls road ..... 104
- " and State line road ..... 372, 562, 787
- growth of ..... 773
- Burr mill stones in Georgia ..... 554
- C**
- Cape Fear and Deep river improve-  
[ment co.] ..... 279, 294
- California, gold mining in ..... 82, 310,  
[246, 324, 581, 640, 641]
- Camden and Amboy railroad ..... 7
- Canada, reciprocity of trade with ..... 102
- Crevasse, mode of checking ..... 468
- railroads in ..... 216, 630
- affairs in ..... 179, 265, 518
- population of ..... 264
- debt of ..... 773
- gold in ..... 275
- Canaling, hints on ..... 531
- Cattle, owners of, bound to keep them  
[off from railroads] ..... 645
- Cayuga and Susq. road ..... 707, 712
- Central railroad, Ohio ..... 471, 581, 564
- " Indiana ..... 661
- " Penn. .... 787, 790
- " Georgia ..... 168, 788
- " Michigan ..... 788
- " railroad of U. S. .... 758
- Cheap railroad ..... 770
- Cheshire railroad ..... 21, 308, 344, 356
- Champ. and St. Lawrence road ..... 153
- Chesapeake and Ohio canal ..... 134, 195
- Chloroform as a motive power ..... 339
- Check upon railway schemes ..... 232
- Charlotte and S. Car. railroad ..... 675
- Chicago and Galena ..... 805
- Cincinnati, Ham. & Dayton road ..... 724
- Cliff mine ..... 703
- Cleveland and Columbus railroad ..... 52,  
[195, 295, 630]
- " Pittsburgh road ..... 136
- " [297, 610, 614, 661, 675, 689]
- Buffalo railroad ..... 517
- Clark, Peter, letter from ..... 8
- Columbia railroad ..... 821
- Concord railroad ..... 357
- Coinage for 1848 ..... 83
- Connecticut River railroad ..... 66, 137
- " railroads in ..... 90
- Coal in the Straits of Magellan ..... 132
- " formation of ..... 148
- " trade of 1849 ..... 178, 198, 500, 629
- " operators, meeting of ..... 181, 263
- " mining 300 years ago ..... 500
- " Dauphin county ..... 425
- " mines in Virginia ..... 624
- " in Rhode Island ..... 738
- " meeting of shippers ..... 864
- " beds of England ..... 803
- Conway tubular bridge ..... 149
- Columbus and Lake Erie road ..... 233, 662
- Cost of locomotion in India ..... 196
- Columbus and Xenia railroad ..... 746
- Cocheo railroad ..... 372, 610
- Conn. and Passump. road ..... 6, 216, 372,  
[807]
- Cotton manufacture at Reading ..... 392
- " statistics ..... 410
- " crop of Alabama ..... 637
- " culture and manuf. of ..... 277, 312
- Copying electric telegraph ..... 565
- Commercial marine of the U. S. .... 549
- Concord and Claremont railroad ..... 517
- Copper mine in Missouri ..... 759
- Copper ores of Lake Superior ..... 401, 417,  
[433, 419, 467, 481, 498, 513, 529, 544]
- Coupling, Clamps ..... 395
- Crevasse, mode of checking ..... 468
- Crawfordville and Lafayette road ..... 194
- Cumberland coal ..... 630
- " Valley railroad ..... 244, 264
- Cuba and its resources ..... 547, 577
- " railroads in ..... 88, 630
- D**
- Danville railroad ..... 279, 361
- Dam across the Connecticut ..... 674
- Damages for railway accidents ..... 581
- Dauphin and Susq. railroad and coal  
[co.] ..... 425
- Deflection of railway bridges ..... 786
- Delaware, railroads in ..... 104
- Deterioration of permanent way ..... 33
- Debts of the States ..... 263
- Depreciation of stock ..... 7, 23, 81
- Depreciation of railway property in  
[England] ..... 395, 505
- Detmold, C. E. .... 631, 665
- Discovery in ventilation ..... 804
- Dick's antifriction press ..... 806
- Dublin and Kingstown railway ..... 35
- E**
- E. Tenn. and Ga. railroad ..... 308, 627, 660
- Easton, H. J. .... 758
- Eastern railroad ..... 356, 460
- Economics of construction ..... 648
- Education of engineers ..... 134
- Electric indicator for boilers ..... 419
- " light ..... 178
- Electro magnetism ..... 213
- Electricity and electric telegraphs ..... 578
- England, her public works ..... 450, 469, 488
- English patents ..... 331, 437, 501
- " railways ..... 55, 195, 196, 376, 595
- " hems ..... 436
- Erie canal ..... 787
- Erie and Ohio railroad ..... 4
- Erie and Northeast railroad ..... 392
- Engine Taghonic, explosion of ..... 217,  
[168, 209]
- " drivers ..... 308
- Estimates of appropriations ..... 776
- Essex railroad ..... 377, 553, 581, 809
- Evansville and Mt. Carmel road ..... 620
- Evans, Oliver ..... 90
- Expenses of government ..... 410
- Explosion of steam boilers ..... 361, 371, 789
- " prevented by  
[electricity] ..... 404
- of the Altoona ..... 726
- steamer Louisiana ..... 771
- Experimental vessel ..... 41
- Experiments with galvanic wire and  
[hemp ropes] ..... 58
- Express locomotives ..... 463
- Extracts from Eng. journals ..... 116, 133
- F**
- Fares on railroads ..... 739
- " in Mass. .... 790
- Fayetteville and Western plank road  
[co.] ..... 279
- Fitchburgh railroad ..... 517
- Fitch, John ..... 30
- Florida, railroads in ..... 104
- " description of ..... 642
- Foreign news ..... 146, 264
- Forman, Joshua ..... 513
- Forwarding cattle by railroad ..... 773
- Friction, experiments in relation ..... 483
- Fraudulent representation of directors  
[547]
- Fuel, how the mechanical virtue is  
[expressed] ..... 149
- Furnaces, cost of ..... 297
- G**
- Gadsden, James, letter from ..... 739
- Galena and Chicago railroad ..... 373, 696
- Gas from water ..... 115
- Georgia, Southwestern railroad ..... 355
- " Central ..... 212, 279, 311, 368,  
[642, 809]
- " cotton factory in ..... 458, 514
- " iron manufactures in ..... 611
- " gold mines in ..... 514
- " public debt of ..... 755
- " railroad and bank co. .... 168, 393
- " railroads in ..... 104, 279, 311, 563,  
[583, 611, 631, 653, 773, 788]
- General railroad law ..... 212
- Germany, railroads in ..... 404, 563, 642
- Girder bridge on the Manchester rail-  
[way] ..... 471
- Glass, colored to assist the view ..... 547
- Gold, a method of ext. from alloy ..... 34
- " in California and other countries  
[165, 514]
- " and gold mines ..... 213, 470, 506
- " in Indiana ..... 66, 582, 664
- Gold in Siberia ..... 213
- Gt. Western railway of Canada ..... 275
- Greenville and Roanoke railroad ..... 344
- " Columbia ..... 502  
[627, 740, 756]
- Grand Junction railroad ..... 486, 627, 755
- Great Britain, mortgages in ..... 808
- " exports of ..... 769
- Gutta Percha tubing ..... 409
- H**
- Hartford and Providence railroad ..... 503
- " Willimantic ..... 797
- Harlem railroad ..... 630
- Henderson and Nashville railroad ..... 660
- Hewson pier for bridges ..... 408
- Hincks, Hon. F., resolutions of .....  
[298]
- High pressure steam ventilation ..... 298
- Hillsboro and Cincinnati road ..... 740, 766
- Hodge, J. T. .... 273
- Howard's N. York line of packets ..... 67



# RAILROAD JOURNAL

## INDEX.

- A**
- Accounts, mode of keeping ..... 81
- Accidents, railroad ..... 631
- Adirondac Steel company ..... 307
- Advantages of railway villages to rail-  
[way companies] ..... 70
- Aerial excursion ..... 659
- Air-line railroad ..... 373
- Alexandria and Valley railroad ..... 788
- " Baltimore ..... 475
- Albany and Cohoes railroad ..... 279
- Alabama, railroads in ..... 104, 490, 771,  
[788]
- Albany and W. Stockbridge road ..... 362
- " coal trade in ..... 551
- " cotton crop of ..... 657
- " and Tennessee railroad ..... 789
- Amalgamation of railways ..... 35
- Ammonia destructive to leather ..... 148
- American cast steel ..... 297
- " trade with Spanish colonies .....  
[565]
- " association for advancement  
of science ..... 553
- " locomotives ..... 373
- " patent rails ..... 418, 548
- " steamships ..... 549
- Androscoggin and Kennebec railroad,  
[403, 444, 775]
- " railroad ..... 115, 661, 758
- Ancient mode of travelling ..... 101
- Architectural improvements ..... 169
- Ashuelot railroad ..... 279, 562
- Atlantic and St. Law. railroad ..... 161, 403
- Atmospheric pile driver ..... 100
- Auburn and Rochester road ..... 103, 550
- Axles, patent railway ..... 196
- B**
- Baker, H. F., improvement of steam  
[boilers] ..... 328
- Baltimore and Ohio railroad—visit of  
[the Governor and others] ..... 372
- Baltimore and Ohio railroad ..... 116, 741,  
[162, 184, 472, 549, 643]
- " and Susquehanna road ..... 775
- Beaton, Col., speech of ..... 278
- Beaver Meadow railroad ..... 787
- Blake's fire proof paint ..... 376
- Bloomfield, J. E., letter from ..... 807
- Blue Ridge railroad ..... 823, 758
- Boston ..... 645
- Boston and Maine railroad co. .... 335,  
[535, 598, 645]
- Boston, Concord and Montreal rail-  
[road] ..... 66, 356, 611
- Boston, Worcester and Western rail-  
[road] ..... 360
- Boston and Worcester railroad ..... 503, 661
- Boston and Providence railroad ..... 501
- Brattleboro railroad connection ..... 194
- Bridging Lake Champlain ..... 233
- British navigation laws ..... 233
- " N. American mining co. .... 553
- association, transactions of ..... 658
- Brittania bridge, accident to ..... 665
- Bridges, deflection of under heavy bo-  
[dies] ..... 786
- Brussels academy of science ..... 500
- Bricks to be wet before used ..... 789
- Buffalo and Niagara Falls road ..... 104
- " and State line road ..... 372, 562, 787
- growth of ..... 773
- Burr mill stones in Georgia ..... 554
- C**
- Cape Fear and Deep river improve-  
[ment co.] ..... 279, 294
- California, gold mining in ..... 82, 310,  
[246, 324, 581, 640, 641]
- Camden and Amboy railroad ..... 7
- Canada, reciprocity of trade with ..... 102
- Crevasse, mode of checking ..... 468
- railroads in ..... 216, 630
- affairs in ..... 179, 265, 518
- population of ..... 264
- debt of ..... 773
- gold in ..... 275
- Canaling, hints on ..... 531
- Cattle, owners of, bound to keep them  
[off from railroads] ..... 645
- Cayuga and Susq. road ..... 707, 712
- Central railroad, Ohio ..... 471, 581, 564
- " Indiana ..... 661
- " Penn. .... 787, 790
- " Georgia ..... 168, 788
- " Michigan ..... 788
- " railroad of U. S. .... 758
- Cheap railroad ..... 770
- Cheshire railroad ..... 21, 308, 344, 356
- Champ. and St. Lawrence road ..... 153
- Chesapeake and Ohio canal ..... 134, 195
- Chloroform as a motive power ..... 339
- Check upon railway schemes ..... 232
- Charlotte and S. Car. railroad ..... 675
- Chicago and Galena ..... 805
- Cincinnati, Ham. & Dayton road ..... 724
- Cliff mine ..... 703
- Cleveland and Columbus railroad ..... 52,  
[195, 295, 630]
- " Pittsburgh road ..... 136
- " [297, 610, 614, 661, 675, 689]
- Buffalo railroad ..... 517
- Clark, Peter, letter from ..... 8
- Columbia railroad ..... 821
- Concord railroad ..... 357
- Coinage for 1848 ..... 83
- Connecticut River railroad ..... 66, 137
- " railroads in ..... 90
- Coal in the Straits of Magellan ..... 132
- " formation of ..... 148
- " trade of 1849 ..... 178, 198, 500, 629
- " operators, meeting of ..... 181, 263
- " mining 300 years ago ..... 500
- " Dauphin county ..... 425
- " mines in Virginia ..... 624
- " in Rhode Island ..... 738
- " meeting of shippers ..... 864
- " beds of England ..... 803
- Conway tubular bridge ..... 149
- Columbus and Lake Erie road ..... 233, 662
- Cost of locomotion in India ..... 196
- Columbus and Xenia railroad ..... 746
- Cocheo railroad ..... 372, 610
- Conn. and Passump. road ..... 6, 216, 372,  
[807]
- Cotton manufacture at Reading ..... 392
- " statistics ..... 410
- " crop of Alabama ..... 637
- " culture and manuf. of ..... 277, 312
- Copying electric telegraph ..... 565
- Commercial marine of the U. S. .... 549
- Concord and Claremont railroad ..... 517
- Copper mine in Missouri ..... 759
- Copper ores of Lake Superior ..... 401, 417,  
[433, 419, 467, 481, 498, 513, 529, 544]
- Coupling, Clamps ..... 395
- Crevasse, mode of checking ..... 468
- Crawfordville and Lafayette road ..... 194
- Cumberland coal ..... 630
- " Valley railroad ..... 244, 264
- Cuba and its resources ..... 547, 577
- " railroads in ..... 88, 630
- D**
- Danville railroad ..... 279, 361
- Dam across the Connecticut ..... 674
- Damages for railway accidents ..... 581
- Dauphin and Susq. railroad and coal  
[co.] ..... 425
- Deflection of railway bridges ..... 786
- Delaware, railroads in ..... 104
- Deterioration of permanent way ..... 33
- Debts of the States ..... 263
- Depreciation of stock ..... 7, 23, 81
- Depreciation of railway property in  
[England] ..... 395, 505
- Detmold, C. E. .... 631, 665
- Discovery in ventilation ..... 804
- Dick's antifriction press ..... 806
- Dublin and Kingstown railway ..... 35
- E**
- E. Tenn. and Ga. railroad ..... 308, 627, 660
- Easton, H. J. .... 758
- Eastern railroad ..... 356, 460
- Economics of construction ..... 648
- Education of engineers ..... 134
- Electric indicator for boilers ..... 419
- " light ..... 178
- Electro magnetism ..... 213
- Electricity and electric telegraphs ..... 578
- England, her public works ..... 450, 469, 488
- English patents ..... 331, 437, 501
- " railways ..... 55, 195, 196, 376, 595
- " hems ..... 436
- Erie canal ..... 787
- Erie and Ohio railroad ..... 4
- Erie and Northeast railroad ..... 392
- Engine Taghonic, explosion of ..... 217,  
[168, 209]
- " drivers ..... 308
- Estimates of appropriations ..... 776
- Essex railroad ..... 377, 553, 581, 809
- Evansville and Mt. Carmel road ..... 620
- Evans, Oliver ..... 90
- Expenses of government ..... 410
- Explosion of steam boilers ..... 361, 371, 789
- " prevented by  
[electricity] ..... 404
- " of the Altoona ..... 726
- steamer Louisiana ..... 771
- Experimental vessel ..... 41
- Experiments with galvanic wire and  
[hemp ropes] ..... 58
- Express locomotives ..... 463
- Extracts from Eng. journals ..... 116, 133
- F**
- Fares on railroads ..... 739
- " in Mass. .... 790
- Fayetteville and Western plank road  
[co.] ..... 279
- Fitchburgh railroad ..... 517
- Fitch, John ..... 30
- Florida, railroads in ..... 104
- " description of ..... 642
- Foreign news ..... 146, 264
- Forman, Joshua ..... 513
- Forwarding cattle by railroad ..... 773
- Friction, experiments in relation ..... 483
- Fraudulent representation of directors  
[547]
- Fuel, how the mechanical virtue is  
[expressed] ..... 149
- Furnaces, cost of ..... 297
- G**
- Gadsden, James, letter from ..... 739
- Galena and Chicago railroad ..... 373, 696
- Gas from water ..... 115
- Georgia, Southwestern railroad ..... 355
- " Central ..... 212, 279, 311, 368,  
[642, 809]
- " cotton factory in ..... 458, 514
- " iron manufactures in ..... 611
- " gold mines in ..... 514
- " public debt of ..... 755
- " railroad and bank co. .... 168, 393
- " railroads in ..... 104, 279, 311, 563,  
[583, 611, 631, 653, 773, 788]
- General railroad law ..... 212
- Germany, railroads in ..... 404, 563, 642
- Girder bridge on the Manchester rail-  
[way] ..... 471
- Glass, colored to assist the view ..... 547
- Gold, a method of ext. from alloy ..... 34
- " in California and other countries  
[165, 514]
- " and gold mines ..... 213, 470, 506
- " in Indiana ..... 66, 582, 664
- Gold in Siberia ..... 213
- Gt. Western railway of Canada ..... 275
- Greenville and Roanoke railroad ..... 344
- " Columbia ..... 502  
[627, 740, 756]
- Grand Junction railroad ..... 486, 627, 755
- Great Britain, mortgages in ..... 808
- " exports of ..... 769
- Gutta Percha tubing ..... 409
- H**
- Hartford and Providence railroad ..... 503
- " Willimantic ..... 797
- Harlem railroad ..... 630
- Henderson and Nashville railroad ..... 660
- Hewson pier for bridges ..... 408
- Hincks, Hon. F., resolutions of .....  
[298]
- High pressure steam ventilation ..... 298
- Hillsboro and Cincinnati road ..... 740, 766
- Hodge, J. T. .... 273
- Howard's N. York line of packets ..... 67



## iii

Hopkinson, Judge.....	376	Lake Superior copper region.....	687	Namkeag cotton mill, Salem.....	953	Providence and Stonington road.....	958
Hot blast patent suit.....	375	iron ores of.....	687	Nashua and Worcester railroad.....	517	" " railroad.....	772
Honford's E. N. report on steam boiler explosions.....	66, 789	water route to.....	719	Navigation laws.....	102	Protection not monopoly.....	772
Huntsville railroad.....	823	Law of progress.....	73	New Hampshire.....	592, 615	Preliminary surveys.....	436
Hudson River road.....	153, 377, 583, 694	Lexington and Mississippi road.....	137	" " railroads in.....	59, 664, 496	Public hygiene.....	433
Hudson, George.....	313, 533, 385, 547	Covington road.....	725	" Brunswick & Nova Scotia railroad.....	264	Quebec and Halifax railroad.....	222
Ice trade.....	41	Liabilities of railroad contractors.....	567	" " [road.....	264	" " Melbourne.....	663
Illinois.....	501, 564, 626	Light, artificial.....	290	" London, Worcester and Palmer [railroad.....	161, 664	Railroads in Europe.....	114
" " internal improvement in.....	822	Lithographic stone.....	547	" " Haven canal railroad.....	134, 233	" " Gt Britain.....	5, 105, 355, 759
" " and Michigan canal.....	190	Liability of railroads.....	295	" " and N. London road.....	411	" " the U. States.....	8, 114, 152
" " and St. Louis railroad.....	100	Light locomotive engines.....	46	" " York and Erie road.....	2, 5, 19, 727	" " Cuba.....	135
" " railroads in.....	104, 105, 229	Louisiana railroad.....	356, 799	" " and N. Haven railroad.....	309	" " New York.....	10
" " Gt. Western railway of.....	146, 724	Lockport and Niagara Falls road.....	290	" " railroads.....	90, 409	" " Massachusetts.....	106, 392
" " finances of.....	790	Locomotive engines.....	40, 232, 361, 564	" " railroad reports.....	245	" " New England.....	10
Important invention.....	392	" " engines, manuf. of.....	190	" " Jersey.....	562	" " Maine.....	16
Improvement in the steam engine.....	41	" " engine, its builders and improvers.....	22	" " railroads in.....	104	" " the interior.....	116
" " working railways.....	167	Louisiana railroad.....	104	Necessity the mother of invention.....	133	Railroads, past, present and future.....	133
" " making iron.....	163, 230	Long Island railroad.....	52	North Carolina, railroads in.....	104, 427, (661	" " English and American.....	440
" " the manuf. of iron.....	328	Lowell railroad.....	178	" " Central railroad.....	134, (362, 279, 687, 799, 890	" " opened in 1848.....	135
" " the manuf. of metallic tubes.....	457	" " and Lawrence railroad.....	645	" " Branch canal.....	562	" " their effects upon real estate.....	163
" " rolling iron.....	489	" " statistics of.....	657	" " American copper mine.....	703	Railroad from Mississippi to the Pacific.....	600
" " railway wheels.....	475	Louisville and Frankfort railroad.....	212, (409, 741	Northern railroad of N. York.....	66, 409	" " " Lewiston Falls to Rumford.....	339
" " steam engines.....	489	London, how supplied with water.....	790	" " Hamp.....	367	" " " Pittsburgh to the Mississippi.....	37
" " r. road construct.....	306	Lovegrove, Thos. J., process for casting iron pipe.....	824	Notes of travel.....	387	" " Hartford to Plainfield.....	66
" " buffers and breaks.....	395	Lynchburgh and Tennessee road.....	325	Norwich and Wor. railroad.....	537	" " " Macon to Augusta.....	568
" " diving bells.....	402	Macon, Ga.....	161	Novel steam engine.....	99	" " " Rock Island to Peru.....	740
" " railway chairs and switches.....	403	Mad River and Lake Erie road.....	426	Ocean Steam Nav. Co.....	66, 191, 136, 194	" " contracts.....	308
" " for lessening friction on railroads.....	328	" " and Western railroad.....	472	Ogdensburg railroad.....	549, 805	" " scales.....	232
Industrial heroes.....	611	Madison and Indianapolis.....	115, (503, 533	Ohio, railroads in.....	105, 246, 372, 625	" " iron.....	5, 326, 550
India-rubber oil.....	216	" " Beloit railroad.....	626	" " and Mississippi railroad.....	178	" " across the Isthmus.....	679
India-rubber springs for cars.....	97, 281, (775, 809	Maine, commerce of.....	65	" " and Pennsylvania railroad.....	278, (372, 459, 504, 563, 556, 627, 661	" " between New Orleans and Jackson.....	806
Indiana.....	553, 643, 820, 428	" " railroad in.....	59, 169, 372, 408	" " public works of.....	410	" " conventions at Memphis and St. Louis.....	615, 568
" " railroads in.....	104, 194	Manufactures at the south.....	248, 272, (472, 759	" " Central railroad.....	564, 610, 661	" " to the Pacific.....	647, 664, 678, (679, 680, 806, 711, 441, 567, 600
" " value of railroads in.....	625, 210	" " of cotton goods.....	317	Old Colony railroad.....	566, 623	" " a new plan for.....	61
" " State debt of.....	668	Manchester and Lawrence.....	444, 562	Ontanagon, river.....	688	" " Boston plan.....	647
" " and Ohio, resources of.....	562	" " Candia railroad.....	55	Orange and Alexandria railroad.....	356	" " letter from committee.....	663
" " and her railways.....	768	Management of railways.....	55	Ordinance survey of Gt. Britain.....	801	" " exploration of route.....	694
Indianapolis and Bellefontaine r. road.....	178, 476	Mansfield and Sandusky railroad.....	121	Overman, F., a treatise on iron by.....	786	" " Memphis convention.....	708
" " r. road terminating at.....	553	" " Newark.....	627	" " on the shrinkage and expansion of iron.....	824	" " St. Louis convention.....	663, 690
" " and Peru railroad.....	740	Maryland, railroads in.....	104, 295	Pacific railroad, address of com.....	759	Railway to the Pacific.....	118, 424, 456, (615, 626, 630
Institution of mechanical eng.....	484, 565	Marshall, C. H.....	67	Pacific railroad.....	100, 151, 408, 659, 739	" " economy.....	285, 296
" " civil eng.....	17, 469, 489	Martin, R. N., work on railways.....	133	" " mail steamship co.....	67	" " share list.....	309, 312, 326, 342, (358, 374, 390, 406, 422, (438, 454, 612, 676, 786
" " New York.....	194	Massachusetts, railroads in.....	89, 138, (506, 661, 823	Panama railroad.....	18, 33, 50, 408	" " progress at the south.....	394
Influence of railroads on agriculture.....	23	" " stocks.....	425	Passumpsic railroad.....	6,		



# INDEX TO VOLUME XXII

Rhode Island, railroads in..... 90, 562	gas works..... 805	Table of iron furnaces in the State of New York..... 497	railroads in..... 90, 562
Richmond and Danville railroad..... 130 [563, 821]	See also..... 456	Tarif convention of New Jersey..... 739	Valley railroad..... 741
Royal society..... 431	effects of oil timber..... 231	Taunton branch railroad..... 501	Virginia..... 185, 195, 228, 563, 696
Rotary engines, improvement in..... 659	expansive action of..... 690, 705	Telegraphic submarine communica- tions..... 135	and her resources..... 609
Roberts, M. O., line of packets..... 67, 306	boiler explosions..... 434	Tennessee..... 581, 711	and Tennessee..... 2, 325
" S. W., speech at St. Louis convention..... 722	engine..... 99, 312	railroads..... 563	gold mines..... 248
Rutland railroad..... 279, 504, 549	boilers, iron or copper..... 474	East, railroad..... 533	her internal improvem..... 247
" and Whitehall railroad..... 373	improvement in..... 328	" and Georgia road..... 182	abd Tenn. road, Eng. of..... 453
Russian great railroad..... 538, 599	boat wheels and paddles..... 182	Message of the Gov. of 741	railroads..... 104, 185, 501
Sale of a railroad..... 675	first that ascended the Ohio [419]	Miss. and Ala. railroad..... 799	message of the Gov..... 809
Salem and Lowell railroad..... 501	boats on the western waters..... 115	No. of iron estab. in..... 879	Wabash and Erie canal..... 152, 740
Sandusky harbor..... 279	engine, a rudimentary treatise [ol. 214]	Terre Haute and Richmond road..... 678	War steamers for Germany..... 178
San Francisco, railroad to..... 215, 643	phenomenon attending the dis- [charge of high pressure..... 194]	Terrestrial magnetism..... 345	Waterford and Limerick railway..... 663
Savannah and Augusta railroad..... 772	communication between Port [land and N. Y. 821]	Texas, railroad through it..... 659	Waukesha and Milwaukee road..... 501
Sejoto and Hocking Valley road..... 356	tug..... 569	The Rocket locomotive..... 34, 58	Weight of locomotives..... 4
" [408, 669, 689]	Steamer Atlantic..... 67	Tonawanda railroad..... 103	Welland canal trade..... 83
Seaboard and Roanoke..... 707	Pacific..... 67	Tonnage of Louisiana..... 67	Western and Atlantic railway..... 137,
Selma and Tennessee railroad..... 626	Tennessee..... 177	Maine..... 67	[161, 563, 568, 706, 798]
" [660, 694, 725, 741]	Steel & Middleton's compound bridge [rail. 409, 457]	Massachusetts..... 67	Whistler, death of Col. G. W..... 313
Ship building in the west..... 673	manufacture in England..... 115	New York..... 67	the late G. W..... 582
" 1846, '47 and '48, 683	Stephenson, George, life of..... 149	Toronto, Simcoe and L. Huron rail- [road. 727]	Whitehall mining co..... 360
New York..... 665	St. John and Shediac railroad..... 263	Trade and com. of N. Y. canals..... 103	Whitney, A..... 519, 631, 645
comparative merits of [iron and wood. 770, 785]	St. Lawrence and Atlantic railroad..... 65	Traffic on English railways..... 34	Wilder's lee-way indicator..... 579
canal at Sault Ste Marie..... 580, 688	" [81, 84, 118, 503]	" table, mystery of..... 626	Wilmington and Manchester railroad [114, 162, 279, 409, 563, 643]
" Lake Superior..... 662	and Lake Champlain [railroad. 472, 517]	Transp. of cattle by railroad..... 773	and Raleigh road..... 563, 676
Signals for railways..... 34	St. Louis convention, letter of Mr. Cal- [houn. 706]	Travel on railroads..... 627	Roanoke railroad..... 725
Smoke, consumption of..... 436	" Mr. Clay..... 706	Trip on the N. England railroads..... 473	Wilson, H. B., address of..... 85
Smith, Hon. O. H., speech of at St. [Louis convention. 721]	Stevens, John..... 20	Troy and Rutland railroad..... 232, 831	Wilton railroad..... 706
Society of arts..... 499	Stratton, N. M., letter from..... 675	Boston railroad..... 755	Winchester and Potomac road..... 723, 891
South Side railroad..... 533, 740	Structure of steamers..... 805	Tubes for locomotives..... 4	Winnipeg Lake, use of..... 549
" Reading branch railroad..... 553	Sullivan railroad..... 21, 517	Tabular bridge over the Menai straits [434]	Wire bridge at Wheeling..... 626
" Carolina railroad..... 18, 163	Summit county, manufactures in..... 568	Tain tables..... 516	" suspension bridge..... 421
railroads in..... 104, 504	Superior, lake, country and mines..... 167	Tuscany furnaces..... 291, 306, 338	Wonders in locomotion..... 311
debt of..... 772	Superstructure of railroads..... 373	Tyler's patent safety switch..... 838	Worcester and Nashua railroad..... 259
" Western railroad..... 112	Suspension aqueduct over the Del. 21	Union canal co..... 113	Working of railways by contract..... 392
Southern manufactures..... 616	" bridge at Niagara..... 3	U. S. mail steamer co..... 67	Wrought iron coffer dam..... 148
and western agricultural in- [terests. 673]	Susquehanna coal trade..... 295	U. S. mint..... 482	" wheels for railways..... 408
Speed of the locomotive..... 217	" Tide water canal..... 423	Utica and Schenectady road..... 360, 517	Y
Spofford & Tileston's line of pack. 67	Syracuse and Rochester railroad..... 741	Value of property as affected by rail- [roads. 564]	York and Cumberland railroad..... 503,
State's electric lights..... 58	" at-line..... 233	Vermont..... 501, 664	[533, 631, 674, 689]
Statistics of British commerce..... 331	and Utica railroad..... 52	Ventilation of mines..... 500	York and Cumberland railroad, Penn. [134, 185, 373, 773]
" the U. States..... 259		and Mass. road..... 130, 185, 457	Z
			Zincing of iron..... 499
			Zinc mine..... 568

TREHERN & ANDERSON, Printers No. 141 Nassau St.

